

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A process for scheduling recording, storing, and deleting of television and/or Web page program material on a storage medium in a computer environment, comprising the steps of:

generating a prioritized list of program viewing preferences;

wherein said list contains a viewer's explicit preferred program selections for recording and inferred preferred program selections for recording;

comparing said list with a database of program guide objects;

wherein said program guide objects indicate when programs of interest are broadcast;

generating a schedule of time versus available storage space that is optimal for the viewer's explicit or inferred preferred programs using said database of program guide objects, said schedule of time versus available storage space tracks all stored programs and programs that have been scheduled to be recorded in the future;

wherein said explicit and inferred preferred programs include television broadcast programs and/or Universal Resource Locators (URLs);

~~wherein said program guide objects indicate when programs of interest are broadcast;~~

generating an ordered list of future showings of a specific program of interest using said database of program guide objects; and

checking ~~each~~ showing(s) of said specific program of interest in said ordered list for input source or storage space conflicts with programs previously scheduled for recording using said schedule of time versus available storage space until a particular showing of said specific program

of interest is found having no input and/or space conflicts for the time the particular showing is available such that a recording of said specific program of interest is made as soon as possible and scheduling said particular showing of said specific program of interest for recording[.];

wherein said checking step makes a determination of conflicts for an explicitly selected program immediately upon the viewer making the explicit selection of the program to record.

2. (Currently Amended) The process of claim 1, wherein the viewer ~~may~~ requests that certain programs be captured, which results in the highest possible priority for those programs.

3. (Currently Amended) The process of claim 1, wherein the viewer ~~may~~ explicitly expresses preferences using appurtenances provided through a viewer interface.

4. (Currently Amended) The process of claim 1, wherein said preferences ~~may-be~~ are inferred from viewing patterns.

5. (Original) The process of claim 1, wherein said preferences correspond to television viewing objects stored in a replicated database.

6. (Currently Amended) The process of claim 1, further comprising ~~the steps of:~~

~~creating a space schedule;~~

~~creating an input schedule; and~~

~~wherein said space schedule tracks all currently recorded programs and programs that have been scheduled to be recorded in the future; and~~

~~wherein said input schedule tracks free and occupied time slots for each input source.~~

7. (Currently Amended) The process of claim 6, wherein a total amount of space available at any given moment in time ~~may-be~~ is found by generating a sum of all occupied space or space that will be occupied at that particular time, and subtracting the sum from total capacity available to store programs.

8. (Previously Presented) The process of claim 1, wherein inferred programs previously scheduled for recording automatically lose conflict decisions with explicit program selections.
9. (Original) The process of claim 1, wherein a program is recorded if at all times between when the recording would be initiated and when it expires, sufficient space is available to hold it.
10. (Original) The process of claim 6, wherein there must be an input available from which to record for the duration of the program.
11. (Currently Amended) The process of claim 6, wherein only those types of inputs from which the desired program can be recorded are considered during scheduling.
- 12-14. (Canceled)
15. (Currently Amended) The process of claim 1, further comprising ~~the step of~~:
sorting said list of showings; and
wherein the ordering of said list results in the viewer being presented with any conflicting explicit preferred program[[s]] selections in order from least impact on ~~scheduled~~ programs previously scheduled for recording to greatest.
16. (Currently Amended) The process of claim 15, wherein for each candidate showing in said list, the viewer is presented with an option of shortening expiration dates for ~~on~~ conflicting explicit preferred program[[s]] selections.
17. (Original) The process of claim 15, wherein the viewer is presented with the option to cancel each previously scheduled recording that has an input conflict with the desired program.
18. (Currently Amended) The process of claim 1, further comprising ~~the step of~~:
providing scheduling, by a background scheduler, each preferred program in turn until the list of preferred programs is exhausted or no further opportunity to record is available.
19. (Canceled)

20. (Original) The process of claim 18, wherein a preferred program is scheduled if and only if there are no conflicts with other scheduled programs.
21. (Currently Amended) The process of claim 1[[8]], wherein an inferred preferred program which has been scheduled ~~may be~~ is deleted if it conflicts with an explicit selection or if a change in viewer preferences identifies a higher priority program that could be recorded at that time.
22. (Original) The process of claim 1, wherein all conflicts are resolved as early as possible.
23. (Canceled)
24. (Currently Amended) The process of claim 1, wherein if when there are schedule conflicts with other programs that the viewer has explicitly selected, the viewer is asked which scheduled recordings should be canceled and which should be completed.
25. (Currently Amended) The process of claim 4, wherein schedule conflicts between explicit program selections and inferred "~~fuzzy~~" program selections are resolved in favor of said explicit selections without asking the viewer.
26. (Currently Amended) The process of claim 1, wherein an expiration time of ~~any at least one conflicting stored~~ inferred preferred program[[s]] is shortened to exactly that needed to allow recording of said particular showing of said specific program of interest when said specific program of interest is an explicit preferred desired program.
27. (Currently Amended) The process of claim 1, wherein schedule conflicts resulting from the recording of aggregate objects are resolved using the preference weighting of the programs involved.
28. (Currently Amended) The process of claim 1, wherein if when multiple conflicts are caused by a particular program in an aggregate object, it will only be recorded if when its preference exceeds that of all conflicting programs.

29. (Currently Amended) An apparatus for scheduling recording, storing, and deleting of television and/or Web page program material on a storage medium in a computer environment, comprising:

a module for generating a prioritized list of program viewing preferences;

wherein said list contains a viewer's explicit preferred program selections for recording and derived preferred program selections for recording;

a module for comparing said list with a database of program guide objects;

wherein said program guide objects indicate when programs of interest are broadcast;

a module for generating a schedule of time versus available storage space that is optimal for the viewer's explicit or inferred preferred programs using said database of program guide objects, said schedule of time versus available storage space tracks all stored programs and programs that have been scheduled to be recorded in the future;

wherein said explicit and inferred preferred programs include television broadcast programs and/or Universal Resource Locators (URLs);

~~wherein said program guide objects indicate when programs of interest are broadcast;~~

a module for generating an ordered list of future showings of a specific program of interest using said database of program guide objects; and

a module for checking each showing(s) of said specific program of interest in said ordered list for input source or storage space conflicts with programs previously scheduled for recording using said schedule of time versus available storage space—until a particular showing of said specific program of interest is found having no input and/or space conflicts for the time the particular showing is available such that a recording of said specific program of interest is made as

soon as possible and scheduling said particular showing of said specific program of interest for recording[.];

wherein said checking module makes a determination of conflicts for an explicitly selected program immediately upon the viewer making the explicit selection of the program to record.

30. (Currently Amended) The apparatus of claim 29, wherein the viewer ~~may~~ requests that certain programs be captured, which results in the highest possible priority for those programs.

31. (Currently Amended) The apparatus of claim 29, wherein the viewer ~~may~~ explicitly expresses preferences using appurtenances provided through a viewer interface.

32. (Currently Amended) The apparatus of claim 29, wherein said preferences ~~may be~~ are inferred from viewing patterns.

33. (Original) The apparatus of claim 29, wherein said preferences correspond to television viewing objects stored in a replicated database.

34. (Currently Amended) The apparatus of claim 29, further comprising:

~~a space schedule;~~

~~an input schedule; and~~

~~wherein said space schedule tracks all currently recorded programs and the programs that have been scheduled to be recorded in the future; and~~

~~wherein said input schedule tracks the free and occupied time slots for each input source.~~

35. (Currently Amended) The apparatus of claim 34, wherein a total amount of space available at any given moment in time ~~may be~~ is found by generating a sum of all occupied space or space that will be occupied at that particular time, and subtracting the sum from total capacity available to store programs.

36. (Previously Presented) The apparatus of claim 29, wherein inferred programs previously scheduled for recording automatically lose conflict decisions with explicit program selections.

37. (Original) The apparatus of claim 29, wherein a program is recorded if at all times between when the recording would be initiated and when it expires, sufficient space is available to hold it.

38. (Original) The apparatus of claim 34, wherein there must be an input available from which to record for the duration of the program.

39. (Currently Amended) The apparatus of claim 34, wherein only those types of inputs from which the desired program can be recorded are considered during scheduling.

40-42. (Canceled)

43. (Currently Amended) The apparatus of claim 29, further comprising:

sorting said list of showings; and

wherein the ordering of said list results in the viewer being presented with any conflicting explicit preferred program[[s]] selections in order from least impact on ~~scheduled~~ programs previously scheduled for recording to greatest.

44. (Currently Amended) The apparatus of claim 43, wherein for each candidate showing in said list, the viewer is presented with an option of shortening expiration dates for ~~on~~ conflicting explicit preferred program[[s]] selections.

45. (Original) The apparatus of claim 43, wherein the viewer is presented with the option to cancel each previously scheduled recording that has an input conflict with the desired program.

46. (Currently Amended) The apparatus of claim 29, further comprising:

a background scheduler that schedules each preferred program in turn until the list of preferred programs is exhausted or no further opportunity to record is available.

47. (Canceled)

48. (Original) The apparatus of claim 46, wherein a preferred program is scheduled if and only if there are no conflicts with other scheduled programs.

49. (Currently Amended) The apparatus of claim [[46]] 29, wherein an inferred preferred program which has been scheduled ~~may be~~ is deleted if it conflicts with an explicit selection or if a change in viewer preferences identifies a higher priority program that could be recorded at that time.

50. (Original) The apparatus of claim 29, wherein all conflicts are resolved as early as possible.

51. (Canceled)

52. (Currently Amended) The apparatus of claim 29, wherein if when there are schedule conflicts with other programs that the viewer has explicitly selected, the viewer is asked which scheduled recordings should be canceled and which should be completed.

53. (Currently Amended) The apparatus of claim 32, wherein schedule conflicts between explicit program selections and inferred "~~fuzzy~~" program selections are resolved in favor of said explicit selections without asking the viewer.

54. (Currently Amended) The apparatus of claim 29, wherein an expiration time of ~~any~~ at least one conflicting stored inferred preferred program[[s]] is shortened to exactly that needed to allow recording of said particular showing of said specific program of interest when said specific program of interest is an explicit preferred desired program.

55. (Currently Amended) The apparatus of claim 29, wherein schedule conflicts resulting from the recording of aggregate objects are resolved using the preference weighting of the programs involved.

56. (Currently Amended) The apparatus of claim 29, wherein if when multiple conflicts are caused by a particular program in an aggregate object, it will only be recorded if when its preference exceeds that of all conflicting programs.

57. (Currently Amended) A program storage medium readable by a computer, tangibly embodying a program of instructions executable by the computer to perform method steps for scheduling recording, storing, and deleting of television and/or Web page program material on a storage medium in a computer environment, comprising the steps of:

generating a prioritized list of program viewing preferences;

wherein said list contains a viewer's explicit preferred program selections for recording and derived preferred program selections for recording;

comparing said list with a database of program guide objects;

wherein said program guide objects indicate when programs of interest are broadcast;

generating a schedule of time versus available storage space that is optimal for the viewer's explicit or inferred preferred programs using said database of program guide objects, said schedule of time versus available storage space tracks all stored programs and programs that have been scheduled to be recorded in the future;

wherein said explicit and inferred preferred programs include television broadcast programs and/or Universal Resource Locators (URLs);

~~wherein said program guide objects indicate when programs of interest are broadcast;~~

generating an ordered list of future showings of a specific program of interest using said database of program guide objects; and

checking each showing(s) of said specific program of interest in said ordered list for input source or storage space conflicts with programs previously scheduled for recording using said

schedule of time versus available storage space until a particular showing of said specific program of interest is found having no input and/or space conflicts for the time the particular showing is available such that a recording of said specific program of interest is made as soon as possible and scheduling said particular showing of said specific program of interest for recording[[]] ;

wherein said checking step makes a determination of conflicts for an explicitly selected program immediately upon the viewer making the explicit selection of the program to record.

58. (Currently Amended) The method of claim 57, wherein the viewer ~~may~~ requests that certain programs be captured, which results in the highest possible priority for those programs.

59. (Currently Amended) The method of claim 57, wherein the viewer ~~may~~ explicitly expresses preferences using appurtenances provided through a viewer interface.

60. (Currently Amended) The method of claim 57, wherein said preferences ~~may-be~~ are inferred from viewing patterns.

61. (Original) The method of claim 57, wherein said preferences correspond to television viewing objects stored in a replicated database.

62. (Currently Amended) The method of claim 57, further comprising the steps of:

~~creating a space schedule;~~

creating an input schedule; and

~~wherein said space schedule tracks all currently recorded programs and the programs that have been scheduled to be recorded in the future; and~~

wherein said input schedule tracks the free and occupied time slots for each input source.

63. (Currently Amended) The method of claim 62, wherein a total amount of space available at any given moment in time ~~may-be~~ is found by generating a sum of all occupied space or space

that will be occupied at that particular time, and subtracting the sum from the total capacity available to store programs.

64. (Previously Presented) The method of claim 57, wherein inferred programs previously scheduled for recording automatically lose conflict decisions with explicit program selections.

65. (Original) The method of claim 57, wherein a program is recorded if at all times between when the recording would be initiated and when it expires, sufficient space is available to hold it.

66. (Original) The method of claim 62, wherein there must be an input available from which to record for the duration of the program.

67. (Currently Amended) The method of claim 62, wherein only those types of inputs from which the desired program can be recorded are considered during scheduling.

68-70. (Canceled)

71. (Currently Amended) The method of claim 57, further comprising the step of:
sorting said list of showings; and

wherein the ordering of said list results in the viewer being presented with any conflicting explicit preferred program[[s]] selections in order from least impact on scheduled programs previously scheduled for recording to greatest.

72. (Currently Amended) The method of claim 71, wherein for each candidate showing in said list, the viewer is presented with an option of shortening expiration dates for ~~on~~ conflicting explicit preferred program[[s]] selections.

73. (Original) The method of claim 71, wherein the viewer is presented with the option to cancel each previously scheduled recording that has an input conflict with the desired program.

74. (Currently Amended) The method of claim 57, further comprising the step of:

providing scheduling, by a background scheduler, each preferred program in turn until the list of preferred programs is exhausted or no further opportunity to record is available.

75. (Canceled)

76. (Original) The method of claim 74, wherein a preferred program is scheduled if and only if there are no conflicts with other scheduled programs.

77. (Currently Amended) The method of claim [[74]] 57, wherein an inferred preferred program which has been scheduled ~~may be~~ is deleted if it conflicts with an explicit selection or if a change in viewer preferences identifies a higher priority program that could be recorded at that time.

78. (Original) The method of claim 57, wherein all conflicts are resolved as early as possible.

79. (Canceled)

80. (Currently Amended) The method of claim 57, wherein if when there are schedule conflicts with other programs that the viewer has explicitly selected, the viewer is asked which scheduled recordings should be canceled and which should be completed.

81. (Currently Amended) The method of claim 60, wherein schedule conflicts between explicit program selections and inferred "~~fuzzy~~" program selections are resolved in favor of said explicit selections without asking the viewer.

82. (Currently Amended) The method of claim 57, wherein an expiration time of ~~any at least one~~ conflicting stored inferred preferred program[[s]] is shortened to exactly that needed to allow recording of said particular showing of said specific program of interest when said specific program of interest is an explicit preferred ~~desired~~ program.

83. (Currently Amended) The method of claim 57, wherein schedule conflicts resulting from the recording of aggregate objects are resolved using the preference weighting of the programs involved.

84. (Currently Amended) The method of claim 57, wherein if when multiple conflicts are caused by a particular program in an aggregate object, it will only be recorded if when its preference exceeds that of all conflicting programs.

85. (Currently Amended) A process for scheduling recording, storing, and deleting of television and/or Web page program material on a storage medium, comprising:

deriving an ordered list of future showings of a specific program of interest from a database of program guide objects;

wherein said program guide objects indicate when programs are broadcast or transmitted;

determining storage medium memory space and input source scheduling conflicts between showings of said specific program of interest in said ordered list and programs that have been scheduled to be recorded in the future, the determining step checking a plurality of input sources for input sources appropriate for each showing of said specific program of interest in said ordered list;

wherein said programs that have been scheduled to be recorded in the future comprise a viewer's explicit program selections and inferred program selections; and

scheduling for recording a particular showing of said specific program of interest that is found having no memory space and/or input conflicts such that a recording of said specific program of interest is made as soon as possible.

86. (Currently Amended) The process of claim 85, wherein the viewer ~~may~~ explicitly requests that certain programs be captured, which results in the highest possible priority for those programs.
87. (Currently Amended) The process of claim 85, wherein said inferred program selections ~~may be~~ are inferred from the viewer's viewing patterns.
88. (Previously Presented) The process of claim 85, wherein said inferred program selections are inferred from the viewer's indicated preferences.
89. (Previously Presented) The process of claim 85, wherein inferred programs already scheduled for recording automatically lose conflict decisions with explicit program selections.
90. (Currently Amended) The process of claim 85, wherein a program is recorded if when at all times between when the recording would be initiated and when it expires, sufficient storage medium space is available to hold it.
91. (Previously Presented) The process of claim 85, wherein there must be an input available from which to record for the duration of the program.
92. (Previously Presented) The process of claim 85, wherein only those inputs from which a desired program can be recorded are considered during scheduling.
93. (Previously Presented) The process of claim 85, wherein said specific program of interest is an inferred program selection.
94. (Previously Presented) The process of claim 85, wherein said specific program of interest is an explicit program selection.
95. (Previously Presented) The process of claim 94, wherein the viewer is presented with an option to cancel each previously scheduled recording that has an input conflict with the viewer's explicit program selection.

96. (Previously Presented) The process of claim 94, wherein the viewer is presented with an option to shorten each previously recorded program's expiration date that has a storage medium memory space conflict with the viewer's explicit program selection.

97. (Previously Presented) The process of claim 96, wherein the viewer's explicit program selection is scheduled to be recorded if the viewer shortens each of the previously recorded program's expiration dates that have a storage medium memory space conflict with the viewer's explicit program selection.

98. (Previously Presented) The process of claim 94, wherein if any previously scheduled programs conflict with an explicit program selection, then the viewer is asked which previously scheduled program should be canceled and which should be completed.

99. (Currently Amended) An apparatus for scheduling recording, storing, and deleting of television and/or Web page program material on a storage medium, comprising:

one or more storage medium;

two or more input sources;

a module for deriving an ordered list of future showings of a specific program of interest from a database of program guide objects;

wherein said program guide objects indicate when programs are broadcast or transmitted;

a module for determining storage medium memory space and input source scheduling conflicts between showings of said specific program of interest in said ordered list and programs that have been scheduled to be recorded in the future, the determining module checking a plurality of input sources for input sources appropriate for each showing of said specific program of interest in said ordered list;

wherein said programs that have been scheduled to be recorded in the future comprise a viewer's explicit program selections and inferred program selections; and

a module for scheduling for recording a particular showing of said specific program of interest that is found having no memory space and/or input conflicts such that a recording of said specific program of interest is made as soon as possible.

100. (Currently Amended) The apparatus of claim 99, wherein the viewer ~~may~~ explicitly requests that certain programs be captured, which results in the highest possible priority for those programs.

101. (Currently Amended) The apparatus of claim 99, wherein said inferred program selections ~~may be~~ are inferred from the viewer's viewing patterns.

102. (Previously Presented) The apparatus of claim 99, wherein said inferred program selections are inferred from the viewer's indicated preferences.

103. (Previously Presented) The apparatus of claim 99, wherein inferred programs already scheduled for recording automatically lose conflict decisions with explicit program selections.

104. (Currently Amended) The apparatus of claim 99, wherein a program is recorded if when at all times between when the recording would be initiated and when it expires, sufficient storage medium space is available to hold it.

105. (Previously Presented) The apparatus of claim 99, wherein there must be an input available from which to record for the duration of the program.

106. (Previously Presented) The apparatus of claim 99, wherein only those inputs from which a desired program can be recorded are considered during scheduling.

107. (Previously Presented) The apparatus of claim 99, wherein said specific program of interest is an inferred program selection.

108. (Previously Presented) The apparatus of claim 99, wherein said specific program of interest is an explicit program selection.

109. (Previously Presented) The apparatus of claim 108, wherein the viewer is presented with an option to cancel each previously scheduled recording that has an input conflict with one of the viewer's explicit program selections.

110. (Previously Presented) The apparatus of claim 108, wherein the viewer is presented with an option to shorten each previously recorded program's expiration date that has a storage medium memory space conflict with one of the viewer's explicit program selections.

111. (Previously Presented) The apparatus of claim 110, wherein the viewer's explicit program selection is scheduled to be recorded if the viewer shortens each of the previously recorded program's expiration dates that have a storage medium memory space conflict with the viewer's explicit program selection.

112. (Previously Presented) The apparatus of claim 108, wherein if any previously scheduled programs conflict with an explicit program selection, then the viewer is asked which previously scheduled program should be canceled and which should be completed.

113. (Currently Amended) A program storage medium readable by a computer, tangibly embodying a program of instructions executable by the computer to perform method steps for scheduling recording, storing, and deleting of television and/or Web page program material on a storage medium, comprising:

deriving an ordered list of future showings of a specific program of interest from a database of program guide objects;

wherein said program guide objects indicate when programs are broadcast or transmitted;

determining storage medium memory space and input source scheduling conflicts between showings of said specific program of interest in said ordered list and programs that have been scheduled to be recorded in the future, the determining step checking a plurality of input sources for input sources appropriate for each showing of said specific program of interest in said ordered list;

wherein said programs that have been scheduled to be recorded in the future comprise a viewer's explicit program selections and inferred program selections; and

scheduling for recording a particular showing of said specific program of interest that is found having no memory space and/or input conflicts such that a recording of said specific program of interest is made as soon as possible.

114. (Currently Amended) The method of claim 113, wherein the viewer ~~may~~ explicitly requests that certain programs be captured, which results in the highest possible priority for those programs.

115. (Currently Amended) The method of claim 113, wherein said inferred program selections ~~may be~~ are inferred from the viewer's viewing patterns.

116. (Previously Presented) The method of claim 113, wherein said inferred program selections are inferred from the viewer's indicated preferences.

117. (Previously Presented) The method of claim 113, wherein inferred programs already scheduled for recording automatically lose conflict decisions with explicit program selections.

118. (Currently Amended) The method of claim 113, wherein a program is recorded ~~if~~ when at all times between when the recording would be initiated and when it expires, sufficient storage medium space is available to hold it.

119. (Previously Presented) The method of claim 113, wherein there must be an input available from which to record for the duration of the program.
120. (Previously Presented) The method of claim 113, wherein only those inputs from which a desired program can be recorded are considered during scheduling.
121. (Previously Presented) The method of claim 113, wherein said specific program of interest is an inferred program selection.
122. (Previously Presented) The method of claim 113, wherein said specific program of interest is an explicit program selection.
123. (Previously Presented) The method of claim 122, wherein the viewer is presented with an option to cancel each previously scheduled recording that has an input conflict with one of the viewer's explicit program selections.
124. (Previously Presented) The method of claim 122, wherein the viewer is presented with an option to shorten each previously recorded program's expiration date that has a storage medium memory space conflict with one of the viewer's explicit program selections.
125. (Previously Presented) The method of claim 124, wherein the viewer's explicit program selection is scheduled to be recorded if the viewer shortens each of the previously recorded program's expiration dates that have a storage medium memory space conflict with the viewer's explicit program selection.
126. (Previously Presented) The method of claim 122, wherein if any previously scheduled programs conflict with an explicit program selection, then the viewer is asked which previously scheduled program should be canceled and which should be completed.